



# LOCAL TELECOMMUNICATIONS COMPETITION SURVEY

Report to the 2020 Oregon Legislature

January 2020



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## Executive Summary

Section 759.050(9), Oregon Revised Statutes, requires the Public Utility Commission of Oregon (PUC) to report annually on the status of competition in the telecommunications industry to the Legislature. In January 2019, information requests were sent to the 31<sup>1</sup> incumbent local exchange companies (ILECs) and 224 competitive local exchange companies (CLECs) certificated by the Commission to operate in Oregon, as of December 31, 2018. Additional information for this report was derived from the Federal Communications Commission's (FCC) Form 477 data<sup>2</sup>, which is collected from all telecommunications companies, and from financial information that both the ILEC's and CLEC's provide the PUC.

Staff has been reporting on the status of competition since 2002 and collecting information on the number of certificated operating companies since 1998, two years after the FCC opened ILEC franchises to competition. What we have observed over that time was a rapid buildup in the number of CLEC's providing services in Oregon between 1998 and 2006. The number of service providing CLECs hit a high of 153 in 2006 and then dropped off following the downturn in the economy; the number did not hit that level again until 2012. Since 2012, that number has fluctuated with the count reaching a new high of 164 in 2015. In 2018, the count has decreased to 145.

Including ILEC companies, there were 176 certificated wireline telecommunications companies providing telecommunications services in Oregon in 2018. Of these 176 companies, three account for over 75 percent of the local exchange and extended area service (EAS) revenues generated in the state. Using the Herfindahl- Hirschman Index (HHI),<sup>3</sup> which is a measure of

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<sup>1</sup> CenturyTel of Oregon and CenturyTel of Eastern Oregon are counted as separate companies

<sup>2</sup> Currently the latest available data from the FCC is dated December 31, 2017.

<sup>3</sup> The United States Department of Justice considers an HHI of less than 1,000 to be un-concentrated, an HHI of 1,000 and 1,800 to be moderately concentrated, and ones over 1,800 to be concentrated.

market concentration,<sup>4</sup> the Oregon wireline market would be considered concentrated when measured by a share of these revenues. Based on lines, the overall HHI index for Oregon is approximately 1,700 (moderately concentrated); however for residential service, the HHI is approximately 2,500, indicating the market is concentrated. Although there are a large number of companies competing with each other across the State, options for residential customers in most areas are limited. The HHI index for business services is approximately 1,300 which implies more firms have less market power.

Wireless providers, which have approximately 3.8<sup>5</sup> million subscribers, were not included in the calculation of the HHI indices because wireline and wireless companies are not considered full substitutes for each other.<sup>6</sup> The HHI index for wireless providers is over 3,000, indicating a concentrated market with few customer choices. There are currently six wireless companies operating in Oregon, two of which account for over 70 percent of the market. Although wireline and wireless services are not full substitutes for each other, the growth in the number of wireless subscribers is clearly tied to the loss of lines by the wireline companies. We particularly see this connection in residential line counts. Business line counts have stayed relatively flat between 2009 and 2018, while the number of residential lines have fallen by more than 450,000.

In 2018, ILECs continued to lose lines to both CLECs and wireless carriers. While total line counts for ILECs and CLECs in aggregate dropped by 2.84 percent between 2017 and 2018, ILEC counts for business lines went down by 10.1 percent and counts for residential lines went down by 13.4 percent. Over this same period, CLECs also saw a drop in residential line counts (1.27 percent) and their business lines rose by approximately 9.1 percent. On a year-to-year basis, ILEC Local Service and Extended Area Service (EAS)<sup>7</sup> revenues fell by 10.2 percent while CLEC revenues rose by less than 1 percent.

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<sup>4</sup> An unconcentrated market is relatively competitive; a market with an HHI near zero would be perfectly competitive. A concentrated market indicates a few companies control the market; a market with an HHI near 10,000 would be a monopoly-controlled market.

<sup>5</sup> Forecast at December, 2018.

<sup>6</sup> "Mobile Broadband Service is Not an Adequate Substitute for Wireline", CTC technology & energy, October 2017.

<sup>7</sup> As reported to the OPUC within the Oregon Universal Service Fund administration.

# I. Introduction

## a. Overview

This report provides a look at the state of telecommunications competition in Oregon and the impact this competition has had on the Incumbent Local Exchange Carriers (ILECs). The study focuses on local exchange residential and business services because they are a good indicator of the level of competition.

The underlying study used for this report monitors the type of local exchange services offered by the ILECs and the Competitive Local Exchange Carriers (CLECs). The monitoring is done at the product group and regional levels. For the regional analysis, staff divided the state into six regions: one region is along the coast, another two regions cover the central and eastern part of the state, and the final three regions follow the I-5 corridor.

The report begins by looking at the local exchange services offered by the ILECs and CLECs. It then looks at the state-level markets for these services and the ILEC and CLEC market share for each class of service. The report shifts its focus to high-speed services being offered, then looks at the regional markets and the services provided in those markets by the ILECs and CLECs.

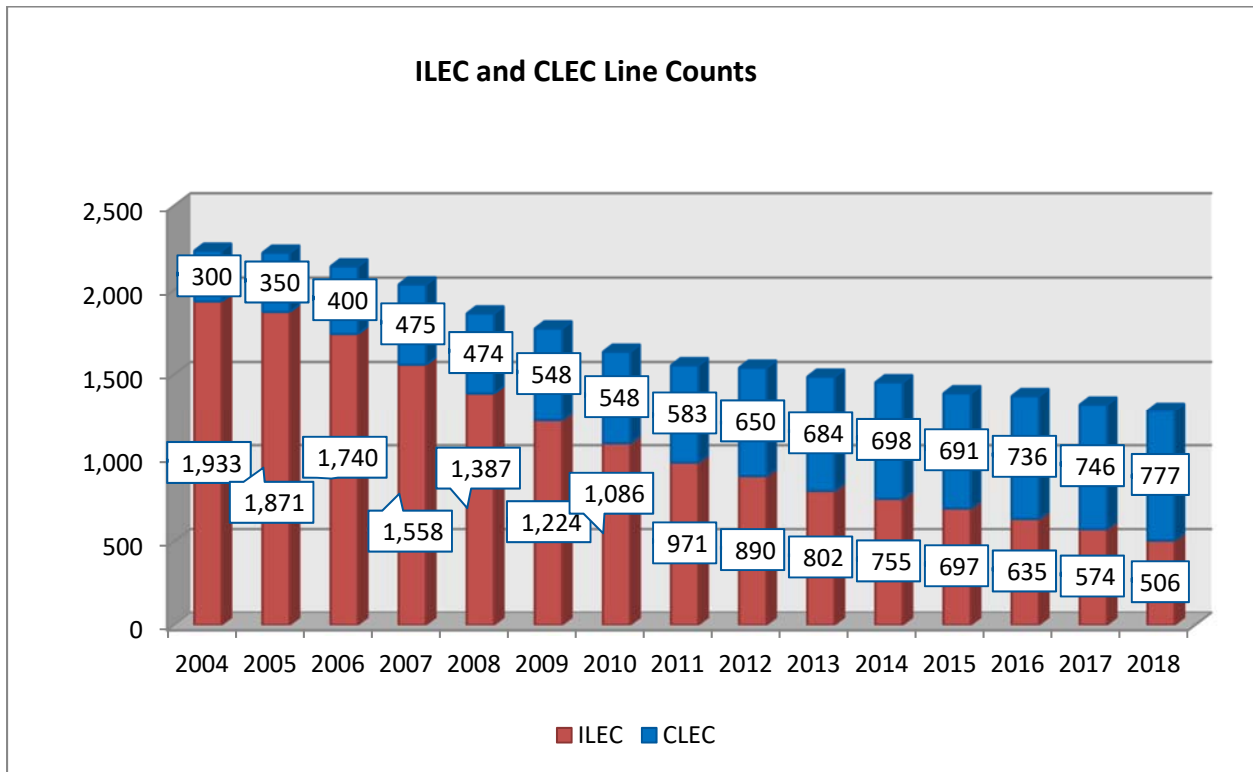
## b. Key Findings

Since the first study over 10 years ago, there has been a steady decline in ILEC line counts and a steady build up in CLEC line counts. This has not been a one-to-one transfer of lines from ILECS to CLECs. Figure 1, below, shows the ILEC and CLEC line counts from 2004 to 2018. From



Figure 1, it is apparent that only a portion of the lines being lost by the ILECs are being picked up by the CLECs. The overall drop appears primarily due to an increased usage of wireless service.

**Figure 1. ILEC and CLEC Line Counts**



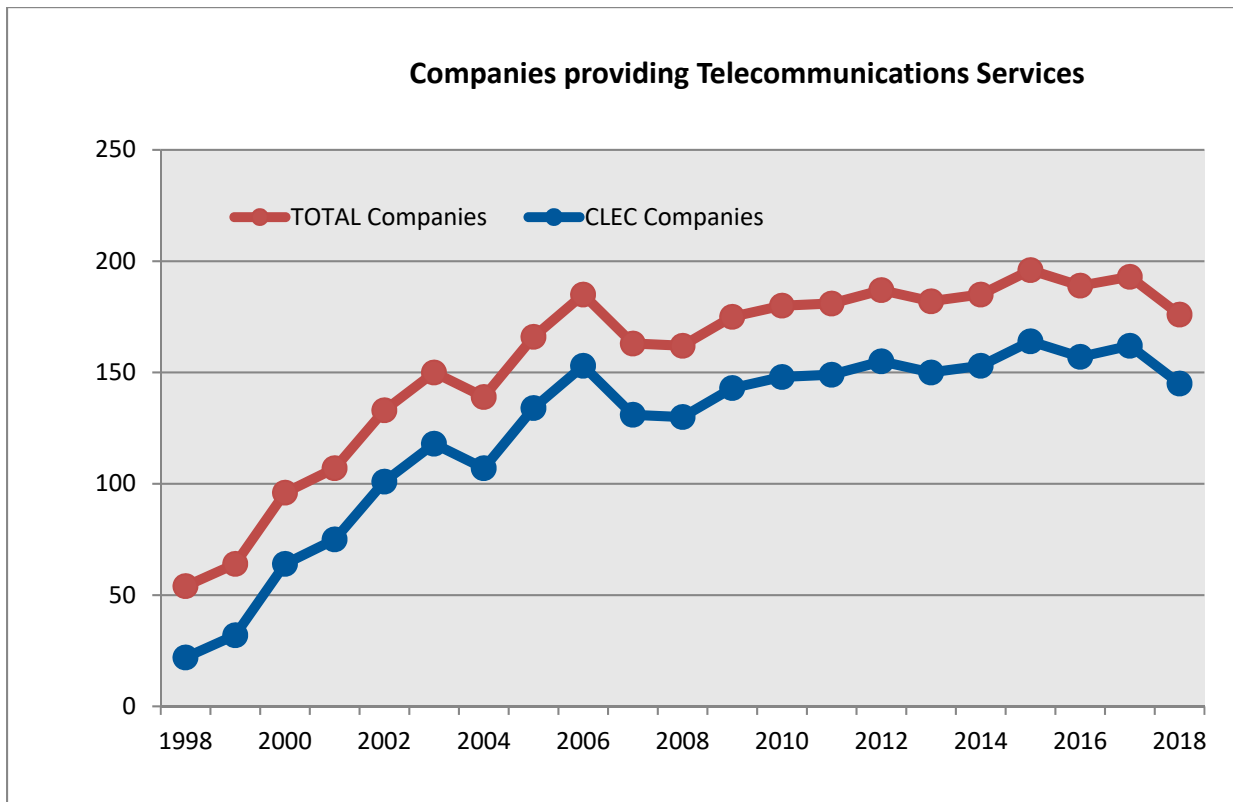
The chart shows that ILEC line counts have fallen by over 70 percent between 2004 and 2018. Over the same period, CLEC and ILEC lines combined have decreased by over 40 percent. Between 2004 and 2018, the wireline market lost 950,000 lines that most likely transferred to wireless providers. Lastly, it is worth noting that in 2016, the number of CLEC lines exceeded the number of ILEC lines for the first time, and have continued to do so since.

The 2017 FCC “Voice Telephone Service Report”<sup>8</sup> indicated there were 3.7million mobile telephone subscriptions in Oregon at the end of December 2017, up 1 percent from the previous year.

<sup>8</sup> Latest FCC data available

Figure 2 provides another look at what has been happening to the wireline market. Figure 2 shows the growth in the number of certificated wireline telecommunications companies providing telecommunications services between the end of 1998 and the end of 2018. With the exception of a downturn in the economy that took place between 2006 and 2010, the number of certificated operating companies has been relatively constant since 2006.

**Figure 2. Companies Providing Telecommunications Services**



Based on lines, the Herfindahl- Hirschman Index (HHI) for the overall Oregon wireline market indicates a market that would be classified as moderately concentrated<sup>9</sup>, as would the market for business services (HHI 1297). The market for residential service (HHI 2489) would be classified as concentrated. The Oregon market for wireless service would also be classified as concentrated (HHI 3057) as two wireless companies account for over 70 percent of the market.

<sup>9</sup> The United States Department of Justice considers an HHI of less than 1,000 to be un-concentrated, an HHI of 1,000 and 1,800 to be moderately concentrated and ones over 1,800 to be concentrated.

Even though there are over 175 companies providing telecommunications service in Oregon, the HHI indices indicate that the number of viable service providers that a customer can choose from is limited for residential wireline and wireless customers. Business customers have more options than residential customers.

**Table 1. Highlights from 2018 Data<sup>10</sup>**

2018 Highlights	\$ Millions	% Share ILEC/CLEC	% Change from 2017
<b>Oregon Local Service and EAS Revenues<sup>11</sup></b>	<b>258</b>		<b>-6.22%</b>
ILEC Revenue	155	60%	<b>-10.20%</b>
CLEC Revenue	103	40%	<b>0.49%</b>
	<b>000's</b>	<b>% Share ILEC/CLEC</b>	<b>% Change from 2017</b>
<b>Local Exchange Lines &amp; Interconnected VoIP Subscriptions</b>	<b>1,283</b>		<b>-2.84%</b>
ILEC Lines/Subs	506	39%	<b>-11.82%</b>
CLEC Lines/Subs	776	61%	<b>4.07%</b>
<b>Total Residential Lines/ I-VoIP Subs</b>	<b>617</b>		<b>-6.81%</b>
ILEC Residential Lines/Subs	261	42%	<b>-13.41%</b>
CLEC Residential Lines/Subs	355	58%	<b>-1.27%</b>
<b>Total Business Lines/I-VoIP Subs</b>	<b>666</b>		<b>1.16%</b>
ILEC Business Lines/Subs	245	37%	<b>-10.05%</b>
CLEC Business Lines/Subs	421	63%	<b>9.06%</b>
	<b>000's</b>		<b>% Change from 2017</b>
<b>Other Statistics</b>			
UNEs (included above under ILEC Business Lines )	64.0		<b>-9.07%</b>
ILEC Private Line Circuits (Not Switched)	13.9		<b>-0.12%</b>

Table 1 provides a year-end snapshot and a look at what took place between 2017 and 2018. Starting with the changes from the prior year, we see that Local Service and EAS Revenues were down by over 6 percent; ILEC revenues were down by over 10 percent; and CLEC revenues were up by a fraction of a percent. Although CLECS have close to 60 percent share of lines in all

<sup>10</sup> CLEC year end data are estimates.

<sup>11</sup> Previous reports have included revenues as reported in the annual survey. The figures above are as reported in the OUSF system as this is believed to be a more accurate amount.

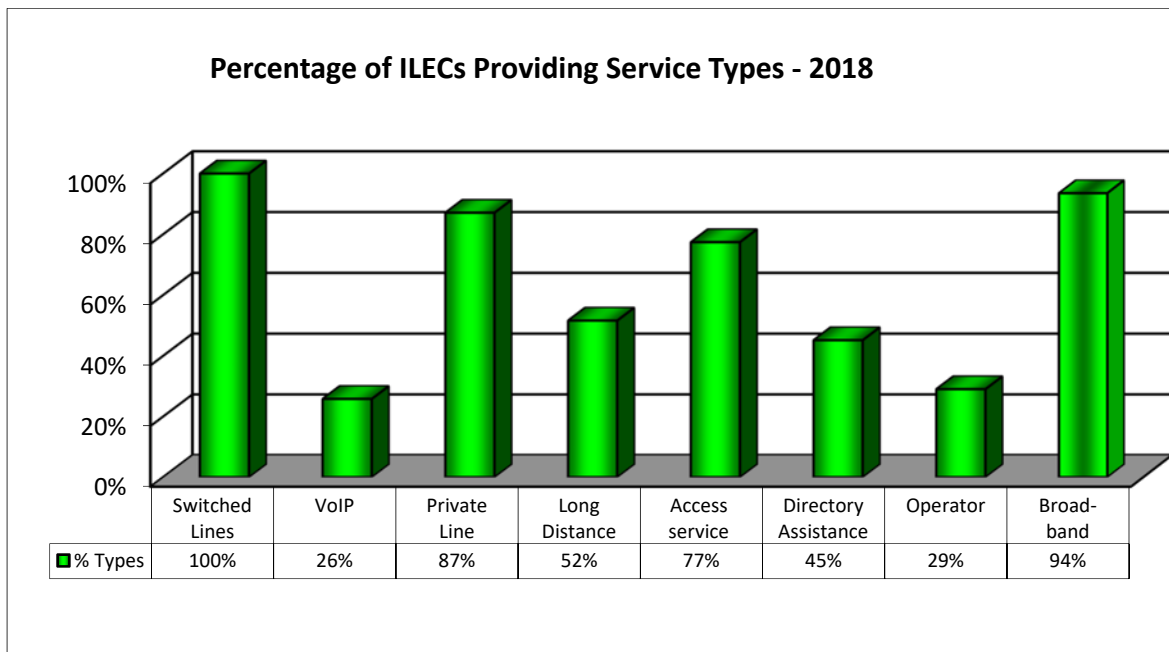
categories, their revenue share of only 40 percent is a result of their high volume, low price marketing strategy. We also see that ILECs lost both residential and business lines during the year while CLECs made gains in business lines and their residential lines dropped by 1 percent. Overall, total lines fell by 2.8 percent.

## II. Service Types

### a) ILEC Service Types

In 2018, all 31 ILECs provided local exchange switched service and broadband; 26 percent provided services utilizing VoIP technology; 87 percent provided private line service; 52 percent provided long distance service; 77 percent provided access service to long distance or interexchange carriers; 45 percent provided directory assistance service; 29 percent provided operator service; and 94 percent provided broadband. The companies provisioning “Other” services dropped from three to two in 2018.<sup>12</sup>

**Figure 3. ILEC Service Types and Distributions**



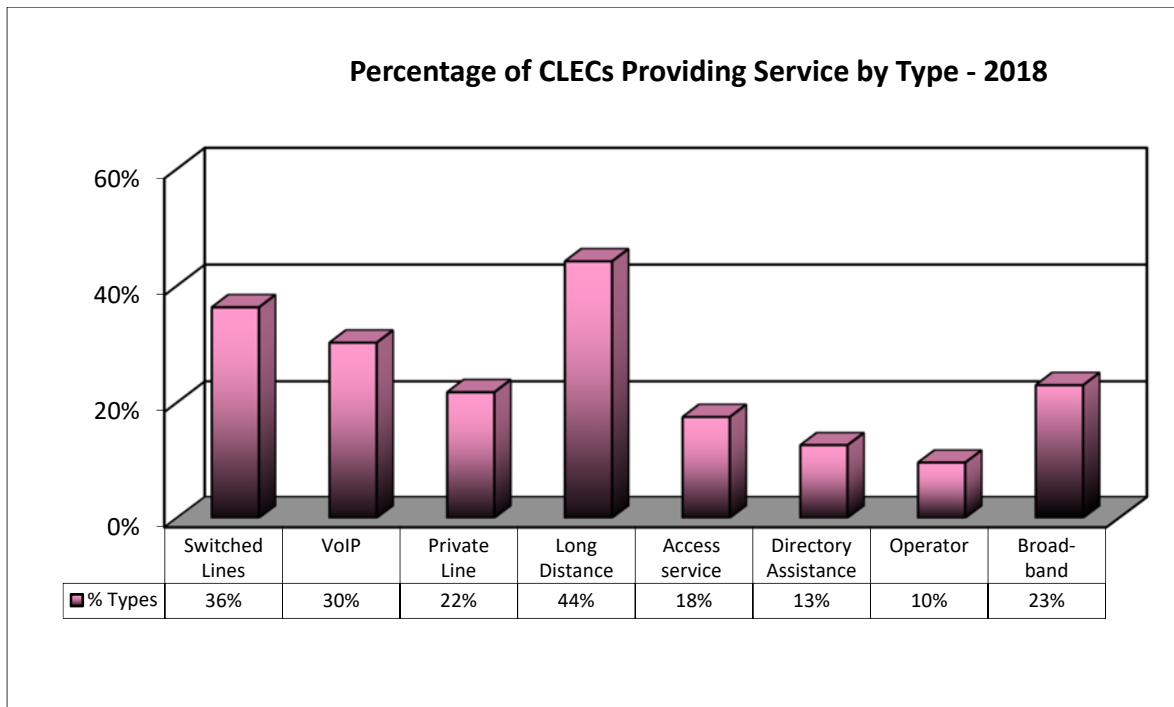
### b) CLEC Service Types

Figure 4 shows the number and percentages of CLECs providing various telecommunications services in 2018. As of December 2018, 71 percent (145) of the certificated CLECs were providing one or more of the telecommunications services identified in Figure 4. Of the 145

<sup>12</sup> Other services include miscellaneous internet services and reselling video and wireless services.

CLECs providing service, 36 percent provided local exchange switched service, 30 percent provided services utilizing VoIP technology; 22 percent provided private line service; 44 percent provided long distance service; 18 percent provided access service to long distance or interexchange carriers; 13 percent provided directory assistance service; 10 percent provided operator service; and 23 percent provided broadband.

**Figure 4. CLECs Providing Service by Type and Distributions**

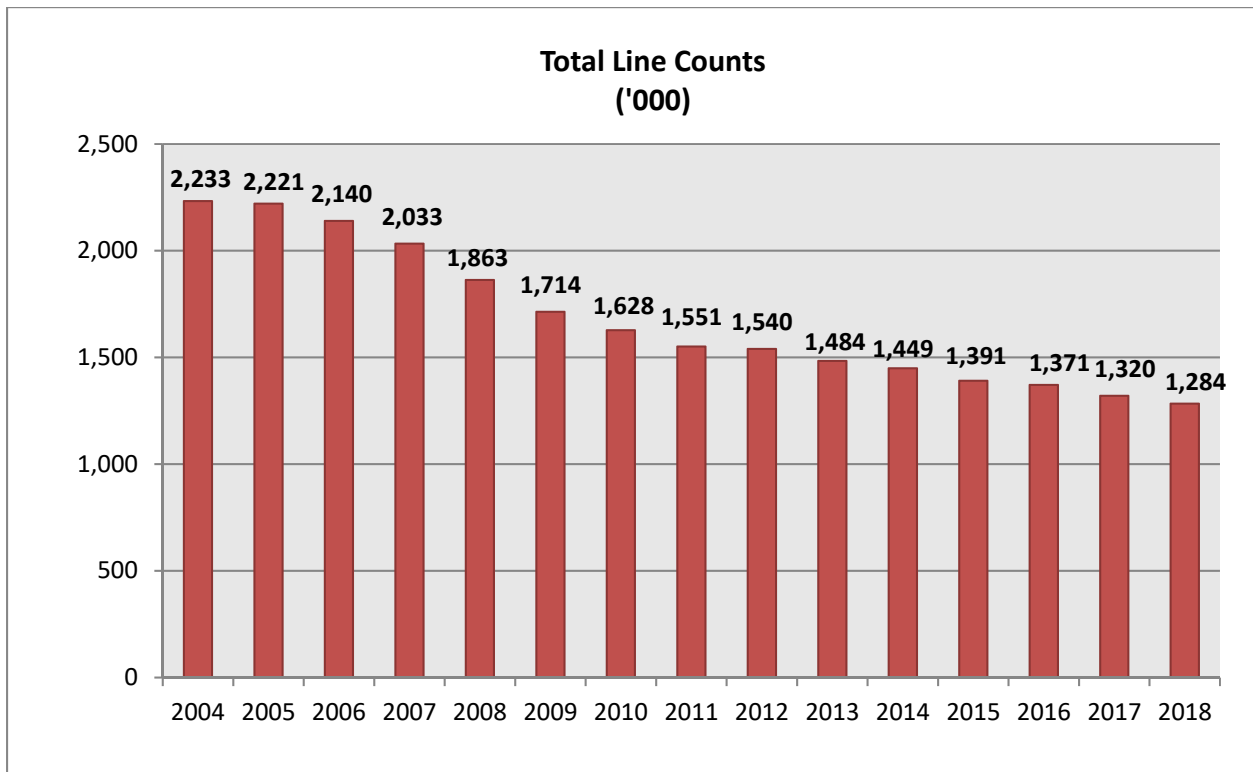


### III. Local Exchange Services – Market Size and Share Analysis

#### a) Total Market Size

Oregon ILECs and CLECs, together, serve an estimated 682,000 local exchange business and residential customers and 1.28 million local exchange telephone lines;<sup>13</sup> this is down approximately 2.8 percent from the prior year. Figure 5 illustrates the change in line count that took place between 2004 when the total line count was 2.23 million to the end of 2018 when the line count was 1.28 million. Over this 14-year period, the wireline market lost 950,000 lines. Much of this loss since 2004 can be attributed to the continued growth in the number of wireless subscribers.

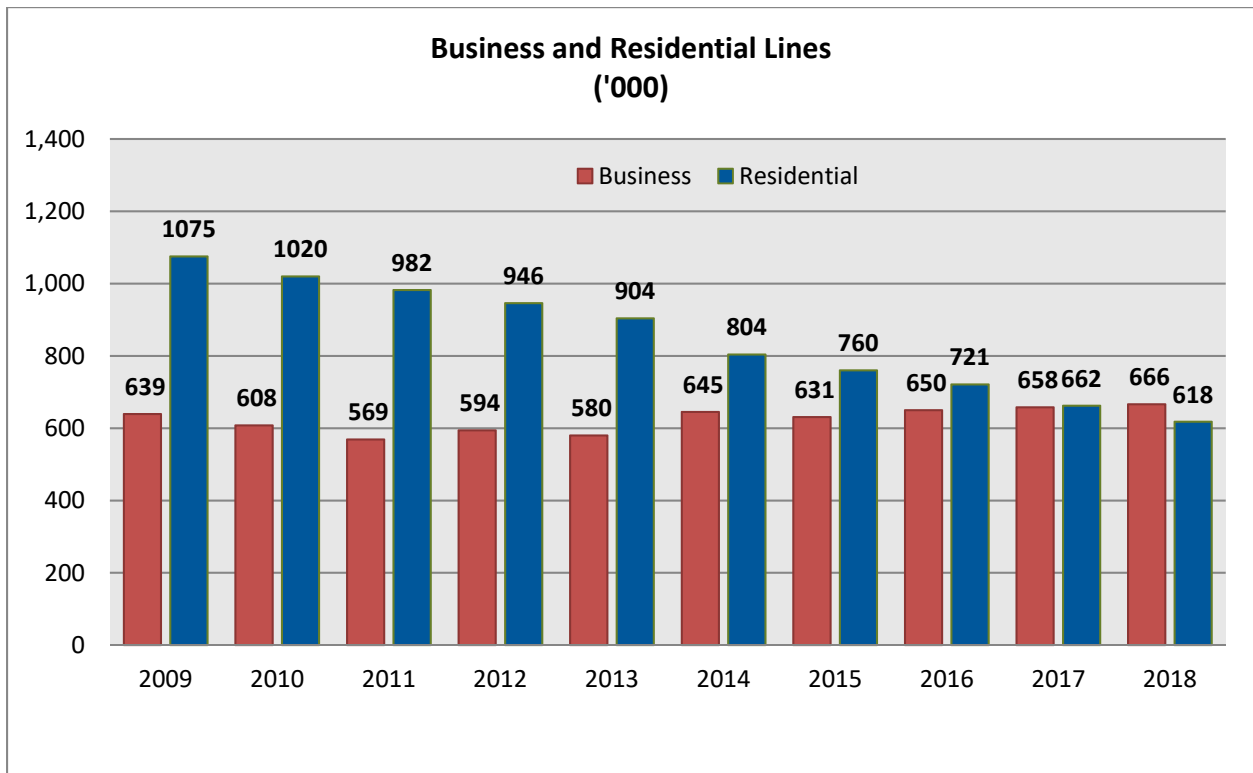
**Figure 5. Total Line Counts**



<sup>13</sup> Local exchange line/service – the traditional definition is a voice-level transmission path (64 kbps digital, or less than 4 kHz analog) linking an end user location with a switching center providing dial tone. For purposes of this report, we include fixed interconnected VoIP lines provided by cable companies in this category.

The wireline market can be further broken down into business and residential lines. Figure 6 shows the change in the business and residential market between 2009 and 2018. Over this period, business line counts have changed very little, while residential lines have dropped each year.

**Figure 6. Business and Residential Lines**



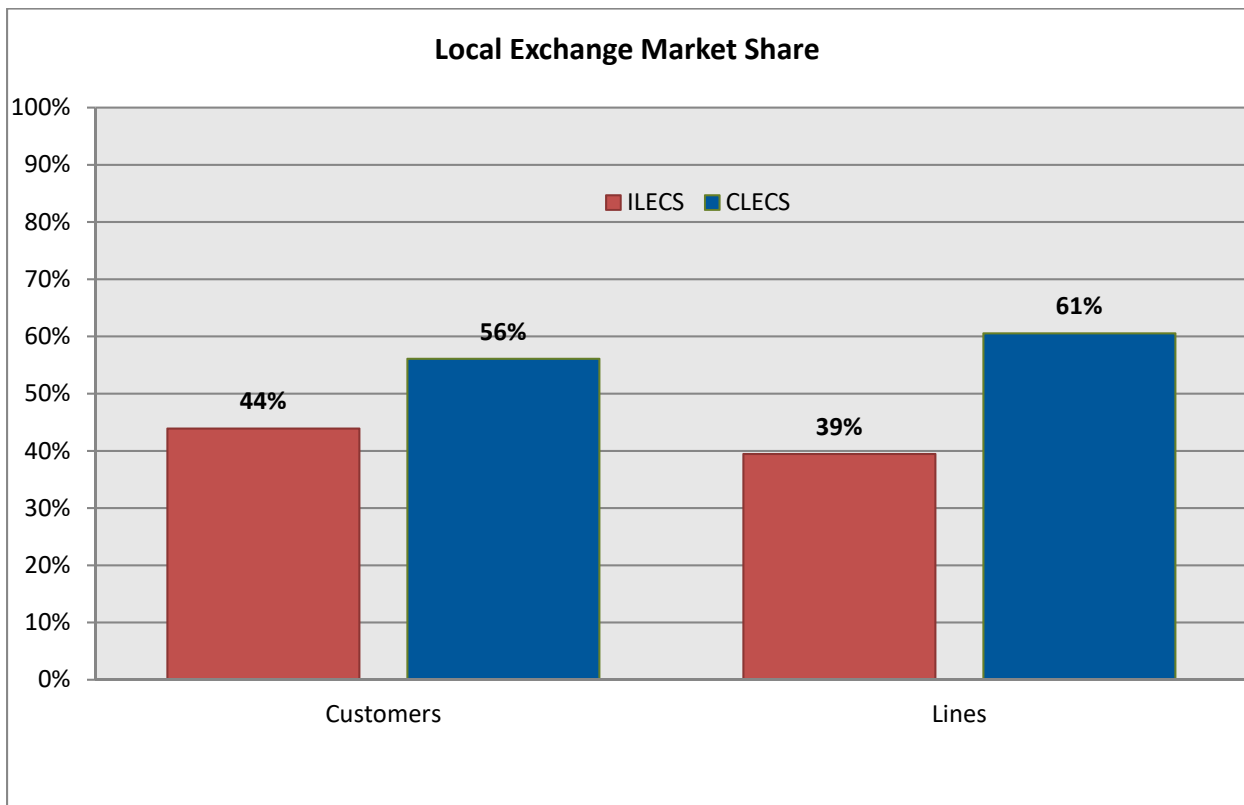


## b) Total Market Share

Two common metrics for measuring telecommunications market share are local exchange lines, and customers.

In 2018, both metrics show CLECs having a greater market share than ILECS. Using customers (both retail business and residential) as the standard,<sup>14</sup> CLECS have 56 percent of the market. With local exchange lines; the ILECs' market share drops to 39 percent and the CLECs' share moves up to 61 percent.

**Figure 7. Local Exchange Market Share**

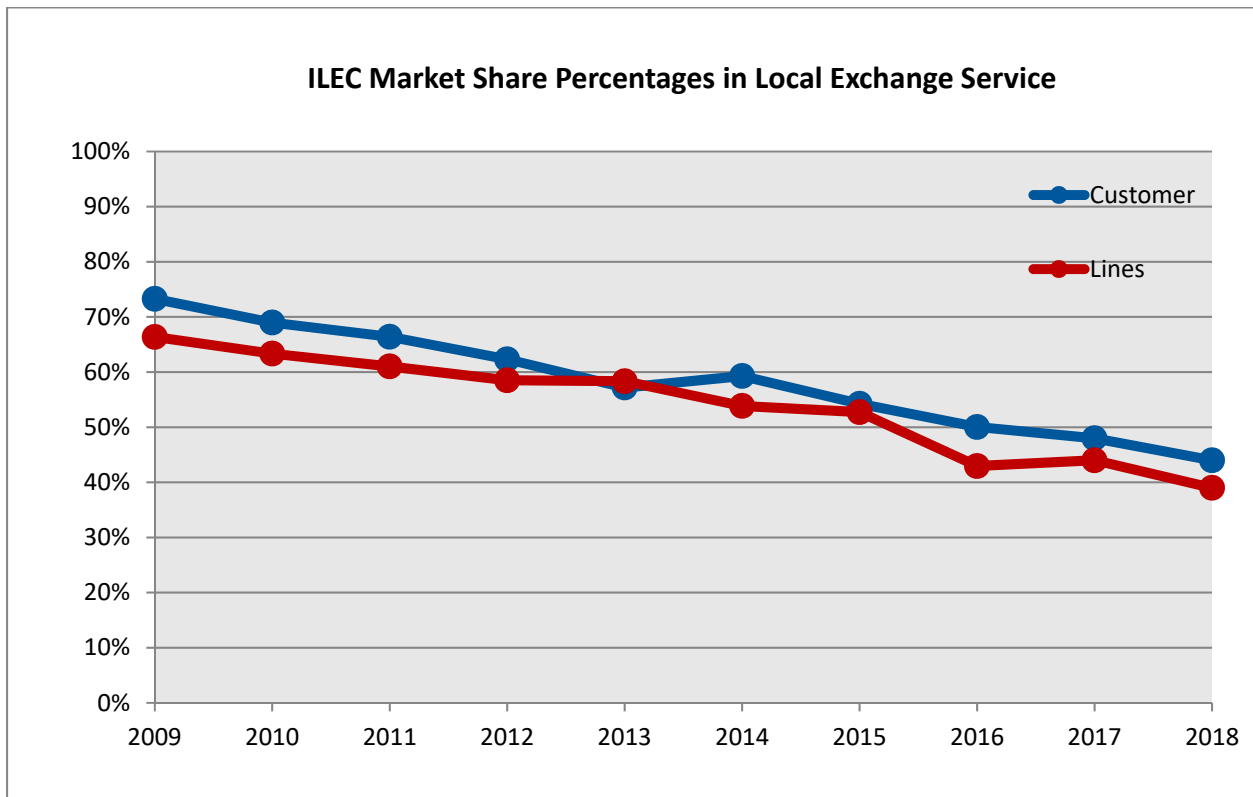


<sup>14</sup> The survey instructions define a customer as a person or entity that had applied for, been accepted, and was receiving service for a price during the period covered by this report. A customer that has multiple lines is counted as one customer.

Figures 8 and 9 below show how market share for the ILECs and CLECs has changed over the past 10 years.

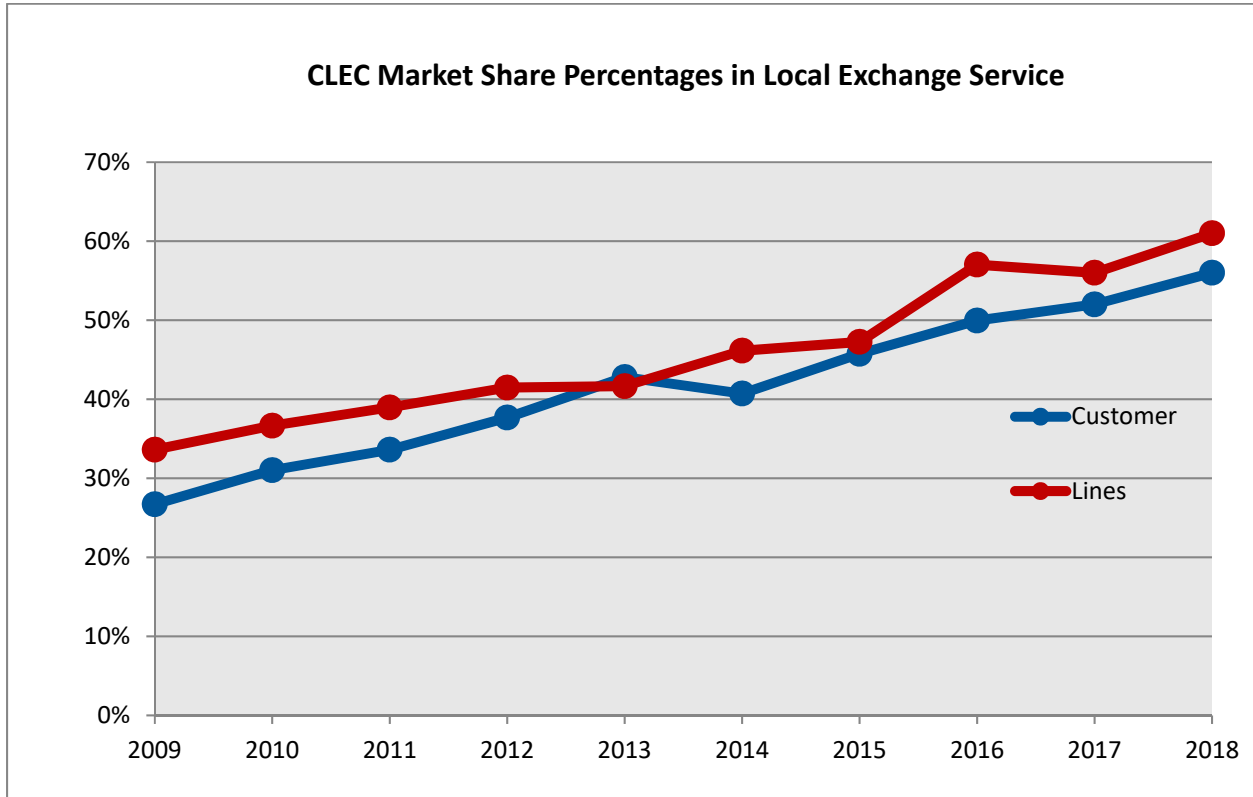
From 2009 to 2018, ILEC total market share under both metrics decreased from close to 70 percent to currently below 50 percent. The ILEC market share of local exchange lines started at 66 percent and ended at 39 percent in 2018. The ILEC total local exchange customer share in the same period, started at 73 percent in 2008 and ended at 44 percent in 2018.

**Figure 8. ILEC Local Exchange Market Share**



Predictably, as the ILEC market share continues to decline, the CLEC market share shows steady growth. From 2009 to 2018, the CLEC market share of local exchange lines started at 34 percent and ended at 61 percent in 2018. The CLEC total local exchange customer share in the same period started at 27 percent in 2009 and ended at 56 percent in 2018.

**Figure 9. CLEC Local Exchange Market Share**

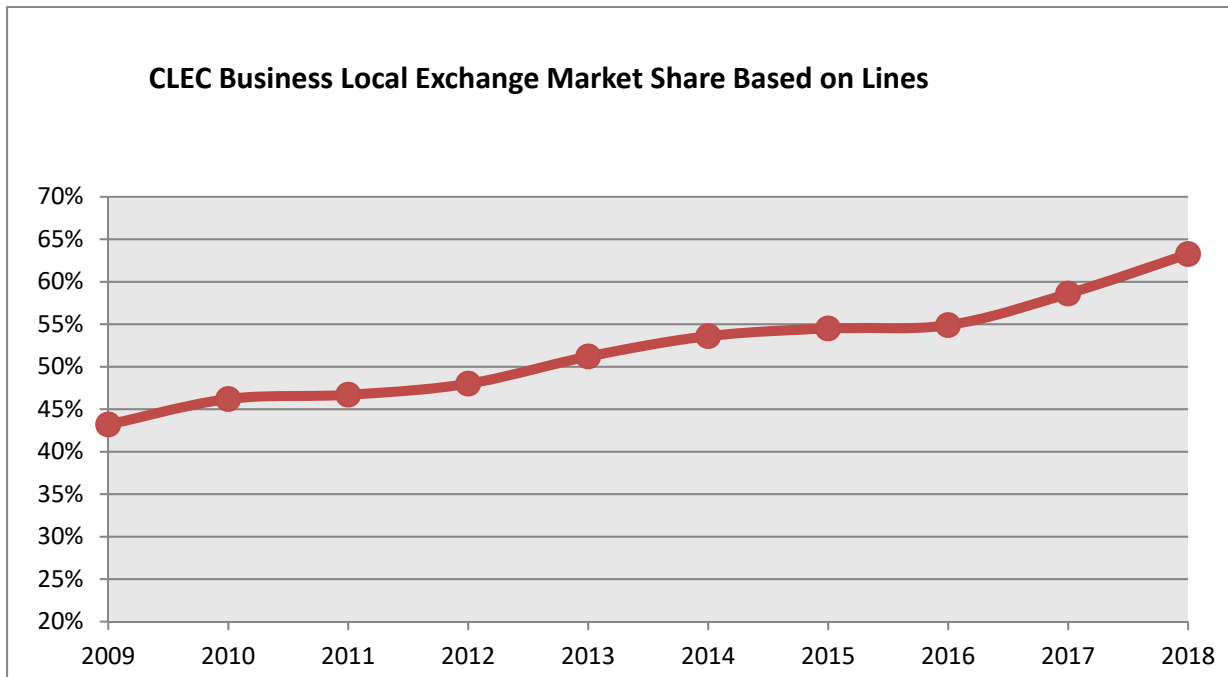


**c) Business Market Share**

In 2018, CLECs served approximately 63 percent of business Local Exchange lines. Previously it was thought that Voice over Internet Protocol (VoIP) providers were concentrating on the lower cost residential market; however, it would appear that there is a definitive switch over to the more profitable (higher revenue per line) business market.

Figure 10, below, illustrates the CLEC business local exchange line market share trend. From 2009 to 2018, CLEC business local exchange line market share started at 43 percent in 2009 and increased to approximately 63 percent in 2018.

**Figure 10. CLEC Business Market Shares for Local Exchange Service<sup>15</sup>**

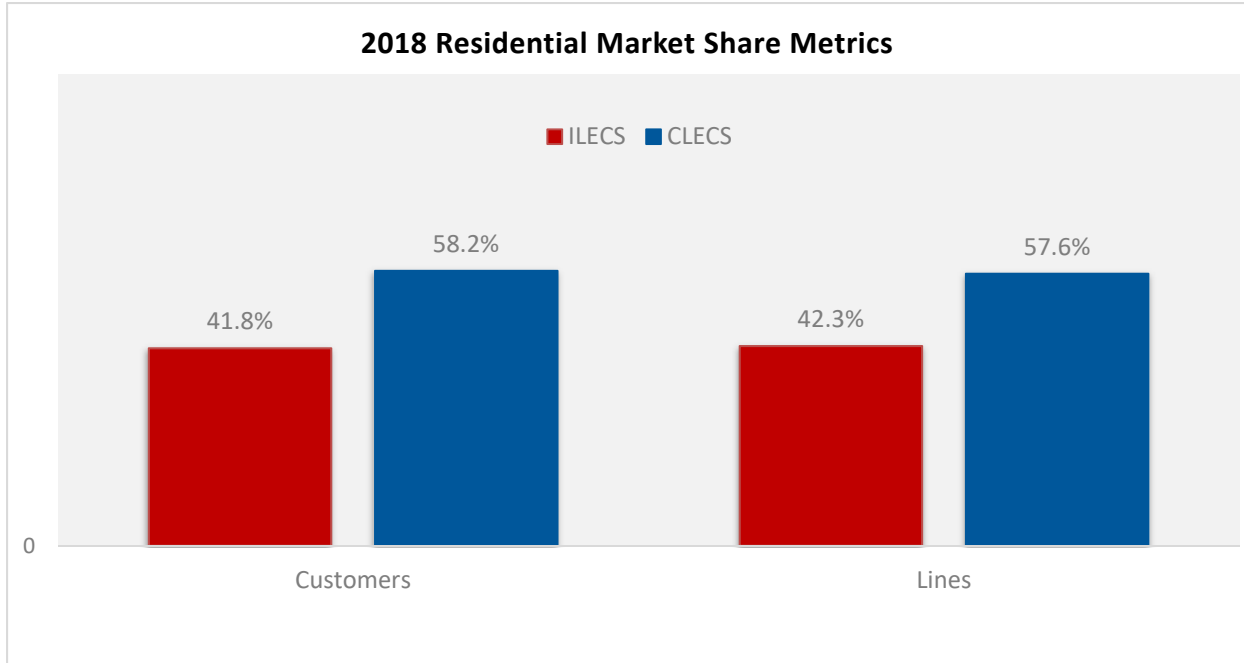


<sup>15</sup> Historical revenue and customer market share has been omitted since it is not available at this level.

**d) Residential Market Share**

The CLEC market share of the residential market continued to increase in 2018 and the CLECs now have a greater market share than the ILECs across all metrics.

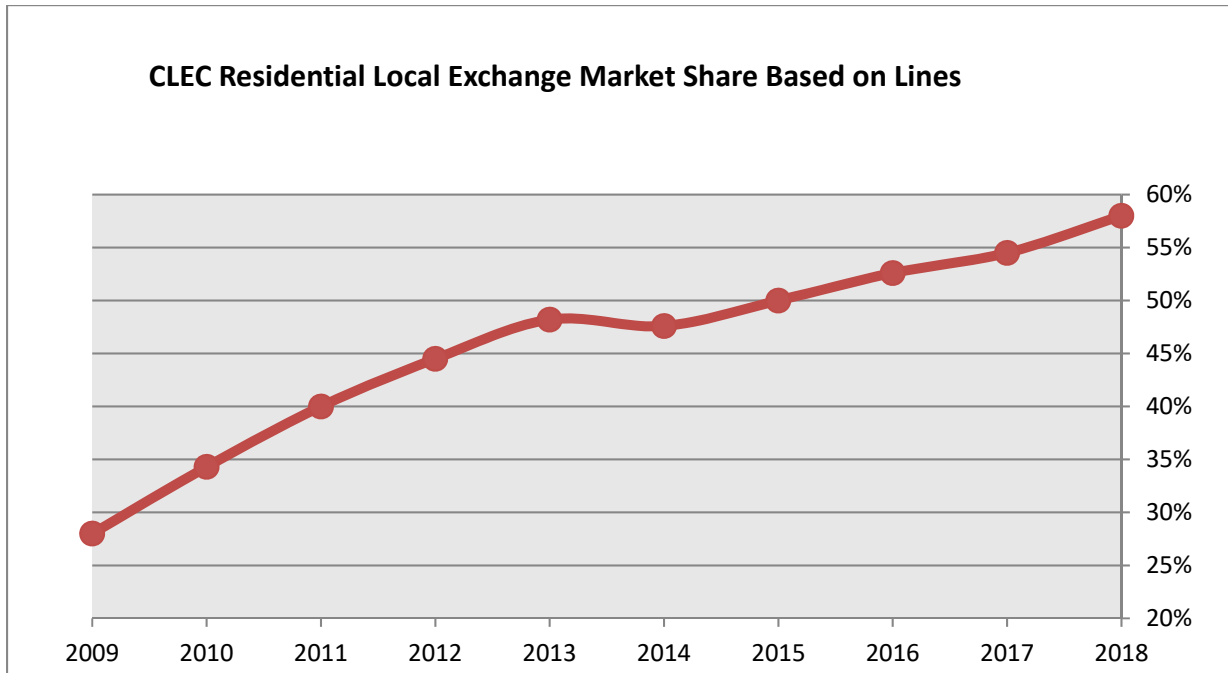
**Figure 11. Residential Local Exchange Services Market Share**



According to the 2018 survey responses, Oregon carriers provided local exchange services to approximately 565,000 Oregon residential customers. ILECs served 236,000 customers, or 42 percent of the total, while CLECs served approximately 330,000 residential customers, or 58 percent of the total. The CLECs' share of residential lines increased from 55 percent in 2017 to 58 percent in 2018.

Figure 12, below, illustrates the CLEC residential local exchange service line share trend. From 2009 to 2018, the CLEC residential local exchange line market share started at 28 percent and increased to 58 percent in 2018.

**Figure 12. CLEC Residential Market Shares for Local Exchange Services<sup>16</sup>**



<sup>16</sup> *Ibid.*

## **e) CLEC Provisioning of Local Exchange Service**

### **Resellers**

In 2018, 53 percent of the CLECs (28 of the 53) that reported providing local exchange service participated in reselling ILEC services. This is a slight decrease from 2017 when 57 percent of the CLECs participated in reselling ILEC services. Reselling requires that a CLEC buy retail service from the ILECs at discounted rates and resell the service, usually with terms and conditions that equal, or are better than, ILEC tariff standards. CLECs will commonly utilize CLEC branding to reach and serve end-user customers.

### **Facility-Based CLECs**

In 2018, 30 percent of the CLECs (16 of the 53) providing local exchange service, were either fully or partially facility-based providers.<sup>17</sup> This data supports the generally understood service approach of CLECs – the resale of ILEC services is combined with CLEC facilities-based services, as needed, to serve customers. Few, if any, CLECs focus entirely on resale or facilities-based competition.

## **f) Competition based on Unbundled Network Elements (UNEs)<sup>18</sup>**

In 2018, only 11 CLECs reported purchasing ILEC UNEs for use in the provision of local exchange, private line or broadband services. Legal rulings that halted further UNE-P<sup>19</sup> sales in 2007 resulted in a major decline of the use of UNEs. It is now more obvious that the CLEC industry subsequently changed its focus regarding UNE services. CLEC services based on UNE-P were at one time heavily oriented towards serving the residential market. With the rule change, UNE-P services were grandfathered and allowed to churn-out over time. The reduced use of UNEs was expected to continue as ILECs shifted from copper-based lines and as end-users demanded

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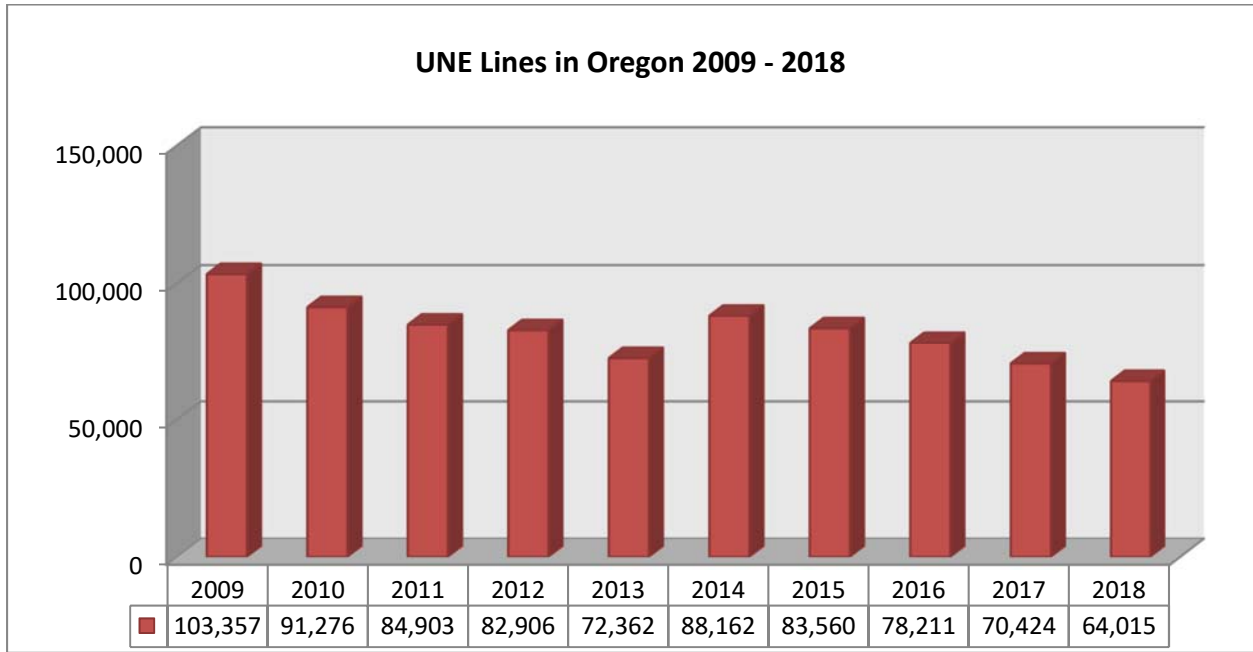
<sup>17</sup> Facility-based providers own their switches and networks rather than lease assets from other providers.

<sup>18</sup> UNE are part of an ILEC's network that federal statute requires them to sell to CLECs.

<sup>19</sup> A UNE-P (UNE-Platform) was a combination of UNEs sold as a package that allowed end-to-end service delivery. It consisted of a loop, switching, and interoffice facilities.

more modern technology solutions from CLECs. The reported data, suggests that a relatively stable period was reached beginning in 2011, and has continued since.

**Figure 13. UNE Lines in Oregon**





## IV. High Speed Access Services

### a) CLEC Provisioning of Private Line Circuits

In 2018, 35 CLECs reported they provided intrastate private line service <sup>20</sup> (44 in 2017).<sup>21</sup> As with local exchange lines, the survey measured CLECs’ market share in three ways: by customers, circuits, and revenues.<sup>22</sup> Table 2, below, compares total counts and displays CLEC market share of intrastate private line services. CLEC private-line market shares ranged from 52 percent (measured by customers) to 66 percent (measured by revenue).

**Table 2. Intrastate Private Line Services**

2018	All LECs	CLECs	ILECs	CLEC Share
<b>Private Line Customers</b>	<b>2,882</b>	<b>1,498</b>	<b>1,384</b>	<b>52%</b>
<b>Total Private Line Circuits</b>	<b>13,883</b>	<b>9,002</b>	<b>4,881</b>	<b>65%</b>
<b>Lower Capacity</b>	<b>4,205</b>	<b>797</b>	<b>3,408</b>	<b>19%</b>
<b>Higher Capacity</b>	<b>9,678</b>	<b>8,205</b>	<b>1,473</b>	<b>85%</b>
<b>Annual Revenues (\$000)</b>	<b>\$ 53,899</b>	<b>\$35,469</b>	<b>\$18,430</b>	<b>66%</b>

### b) Broadband Service

Although revenues and line counts from IP based broadband providers are included in limited form in this report as few submit corresponding information, the year-on-year changes and the

<sup>20</sup> In 2018, two CLECs provided only lower capacity private line service; 23 CLECs provided only higher capacity private line service; 6 CLECs provide both lower capacity and higher capacity private line services.

<sup>21</sup> In 2017, three CLECs provided only lower capacity private line service; 30 CLECs provided only higher capacity private line service; 14 CLECs provide both lower capacity and higher capacity private line services.

<sup>22</sup> A circuit is a commonly accepted industry term for private line facilities, such as DS1 and DS3 private lines or circuits. Circuits, however, can equate to POTS switched access lines, also called DS0s. For example, a DS1 circuit can equal 24 DS0s; a DS3 circuit can equal 672 DS0s. A circuit may connect two customer locations. If so, customers will be billed for each connection or termination. Each circuit will have at least two terminations. The capacity of a circuit is determined by the capacity delivered to the customer at the point of termination, even though the customer may further subdivide that capacity using its own multiplexing or other equipment.

comparison of revenue share gives an indication of the expansion of broadband in Oregon. The total number of ILEC and CLEC broadband lines reported in Oregon were 372,914 in 2018 and 396,109 in 2017, a decrease of six percent. Approximately 74 percent of the lines were provided by ILECs, up from 72 percent in 2017, while 26 percent were provided by CLECs, down from 28 percent in 2017.

## V. Voice over Internet Protocol (VoIP) Service

VoIP service (primarily fixed interconnected VoIP Service) enables real-time, two-way voice communications using Internet-protocol (IP) compatible customer-premises equipment and IP compatible central office equipment (soft-switches). Tracking the move to the provisioning of voice services using VoIP provides useful information about the local exchange network and to some extent the focus of any investment.

The number of ILECS using VoIP technology, doubled from 2017 to 2018 and is now at 26 percent. The ILECs reported they are serving over 5,000 residential and business VoIP lines. This suggests that the ILECs are in an early stage of market testing and transitioning customers from POTS service.<sup>23</sup> VoIP service by the ILECs seems inevitable, as a number of the small ILECs have been installing soft-switches,<sup>24</sup> essential for the use of VoIP technology to serve end-users.

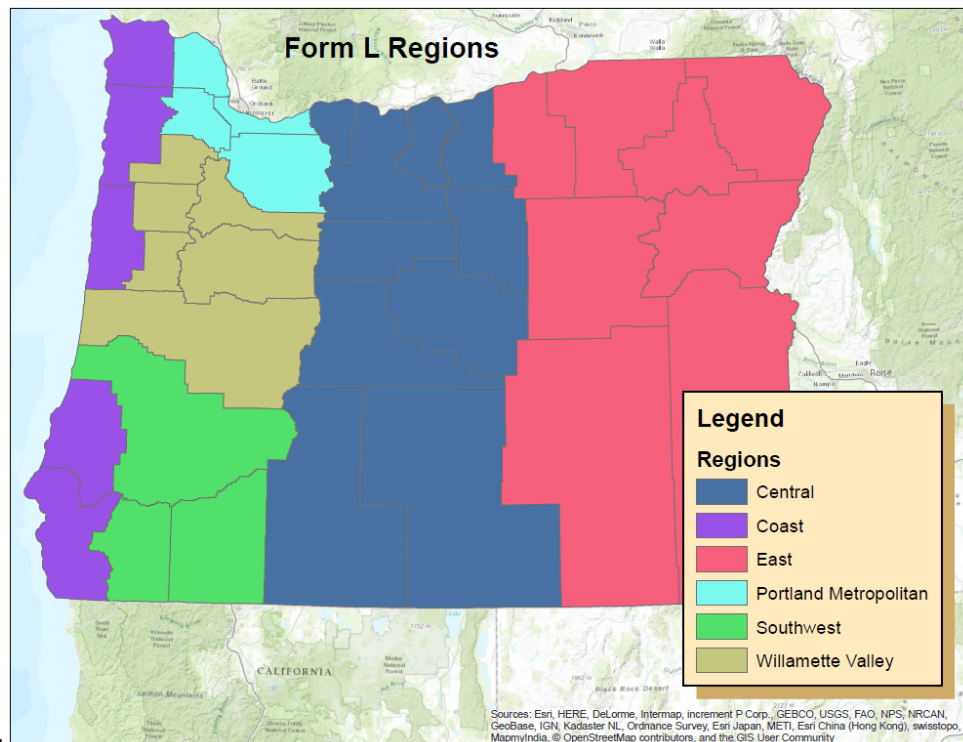
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<sup>23</sup> POTS is commonly understood to mean Plain Old Telephone Service, the copper-based, circuit-switched technology used by most ILECs and CLECs for local exchange service.

<sup>24</sup> Softswitch is an abbreviation for software switch, the most modern version of central offices. Softswitches were designed originally for packet-switched (a.k.a., internet protocol (IP)) traffic, but have evolved for use by both IP and circuit-switched traffic.

## VI. Market Segments by Region and Type of Service

Staff divided Oregon into six, county-based geographic regions. The six regions identified by color are: 1) Portland Metropolitan (Portland); 2) Willamette Valley (Willamette); 3) Southwest Interior (Southwest); 4) Coast; 5) Central; and 6) East. With the exception of the Coast region, which was pulled from the Portland, Willamette, and Southwest regions, the PUC's regions are the same as those used by the Oregon Department of Transportation.



**Form L Regions**

### a) Local Exchange Service by Region

The Portland region is the most populous area of the state with a population almost twice as large as the next largest region which is the Willamette region. They are followed in size by the Southwest, Central, and the remaining other regions. The Portland Metropolitan region has a 44 percent share of all local exchange lines in the state. The Willamette Valley has the second largest share with 24 percent of the local exchange lines. The remaining four regions, in

aggregate, only account for 32 percent: Southwest Interior (nine percent), Coast (eight percent), Central (nine percent), and East (six percent). Figure 14 shows the distribution of combined ILEC and CLEC local exchange lines by region.

**Figure 14. Local Exchange Line Regional Distribution**

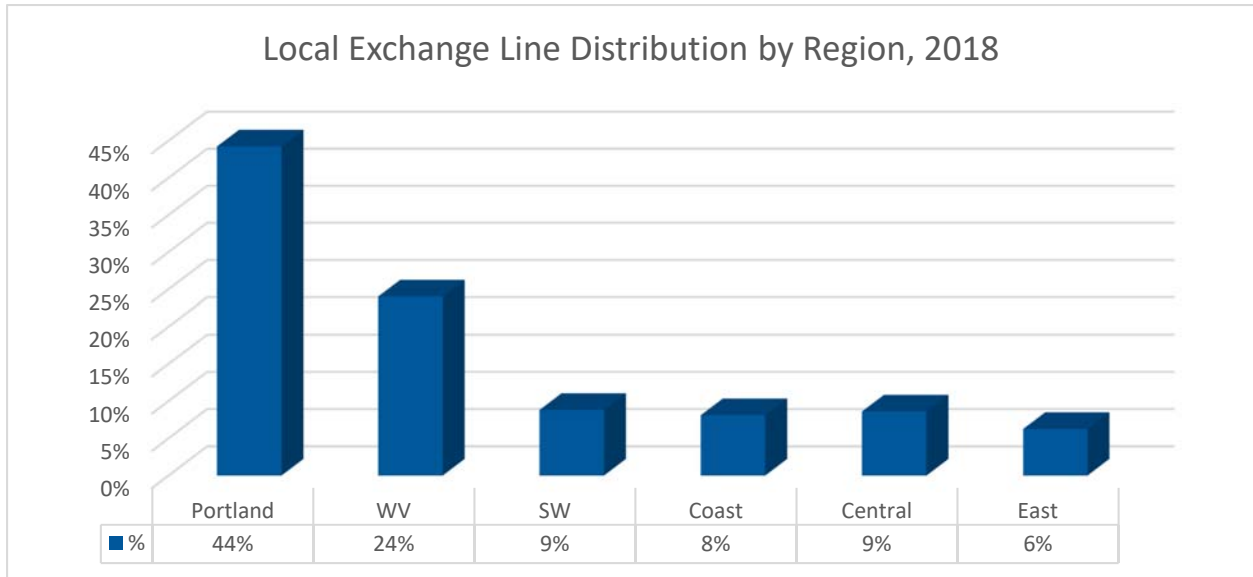
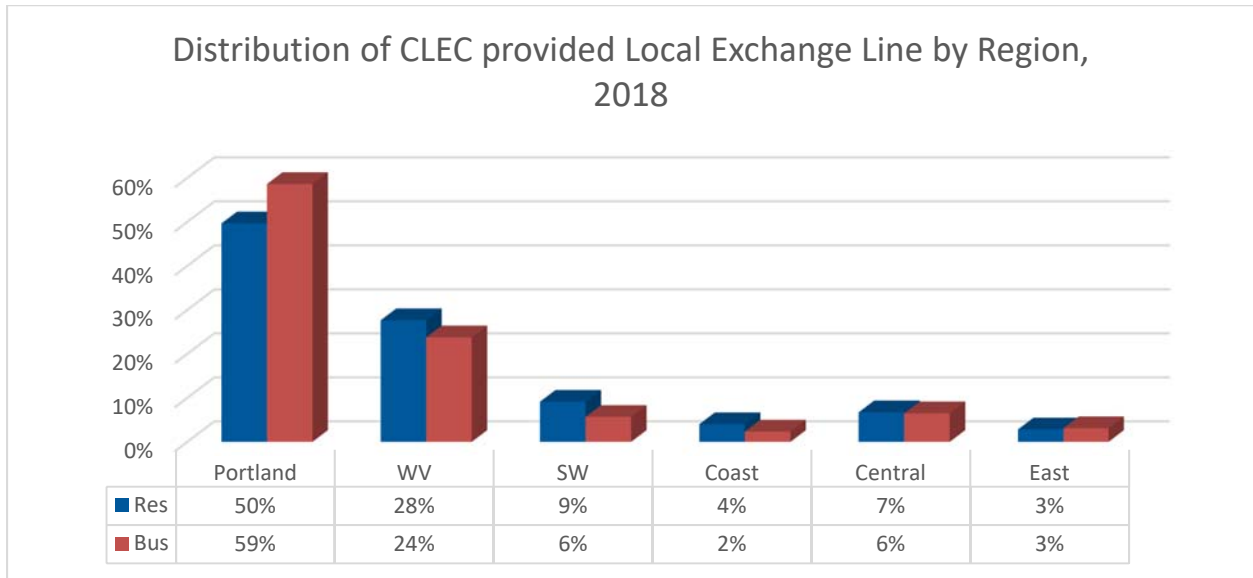


Figure 15, provides a breakdown of the distribution found in Figure 14. Figure 15 looks only at CLEC lines and breaks those down into residential and business lines. Comparing Figure 14 and Figure 15, we see that in the Portland region, the CLECs are slightly more prevalent for both categories of lines than the combined distribution. There are slight variations from the combined distribution, but less than that in the Portland region.

**Figure 15. CLEC Local Exchange Line Regional Distribution**

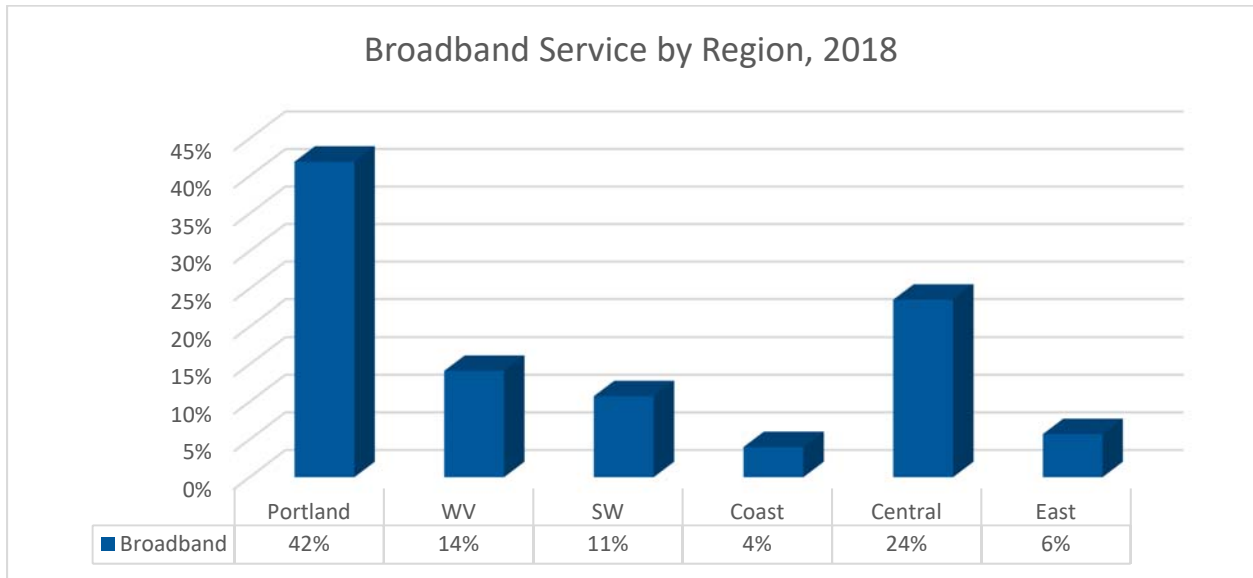


**b) Broadband Service by Region**

In the 2018 survey, ILECs and CLECs reported providing 372,914 broadband lines.

Approximately 42 percent of the lines were in the Portland Metropolitan region (see Figure 17), which has the largest count, followed by the Central (24 percent), Willamette Valley (14 percent), Southwest (11 percent), East (six percent), and Coast (four percent) regions. As stated previously, broadband data in this report is limited as few companies submit corresponding information.

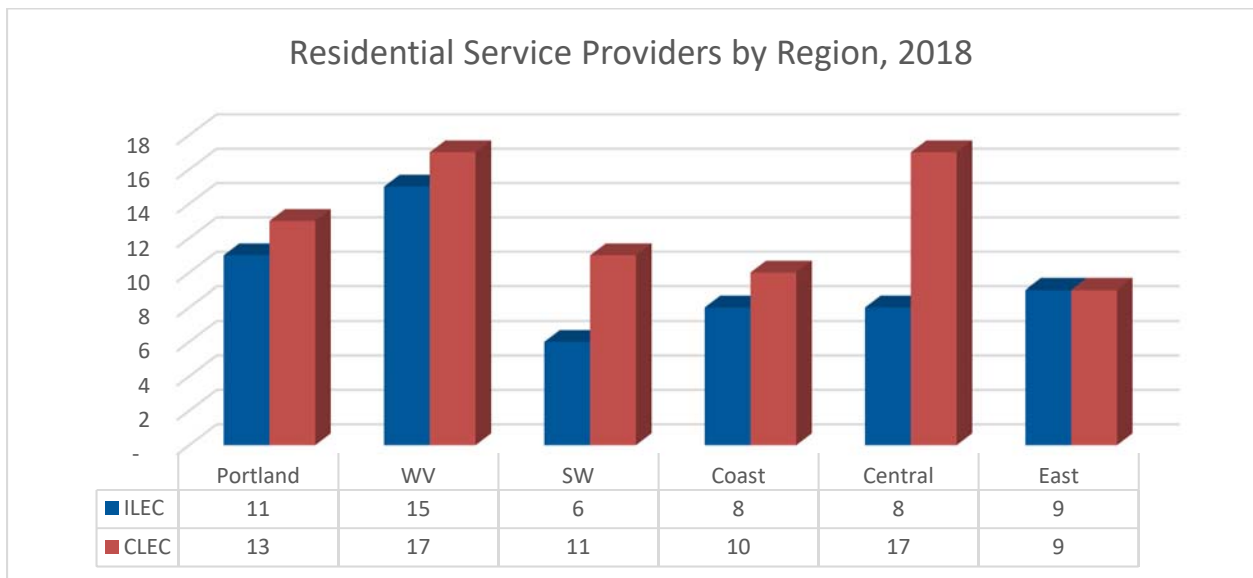
**Figure 17. Broadband by Region**



**c) Level of Competition by Region**

Figure 18 and Figure 19 show the number of companies competing for residential and business customers in each of the regions. While the CLECs can compete across an entire region, the ILECs can only compete in their franchised serving area. The ILECs are not competing with other ILECs in a region.

**Figure 18. Residential Service Providers by Region**



The number of CLEC companies competing for residential customers across all of the regions ranges from a high of 17 companies in the Willamette region to a low of nine companies in the East region. There are a significantly larger number of CLEC companies competing for business customers. In the Portland region, there are three times as many companies competing for business customers as there are companies competing for residential customers. In all regions the number of companies competing for business customers is greater than the number competing for residential customers.

**Figure 19. Business Providers by Region**

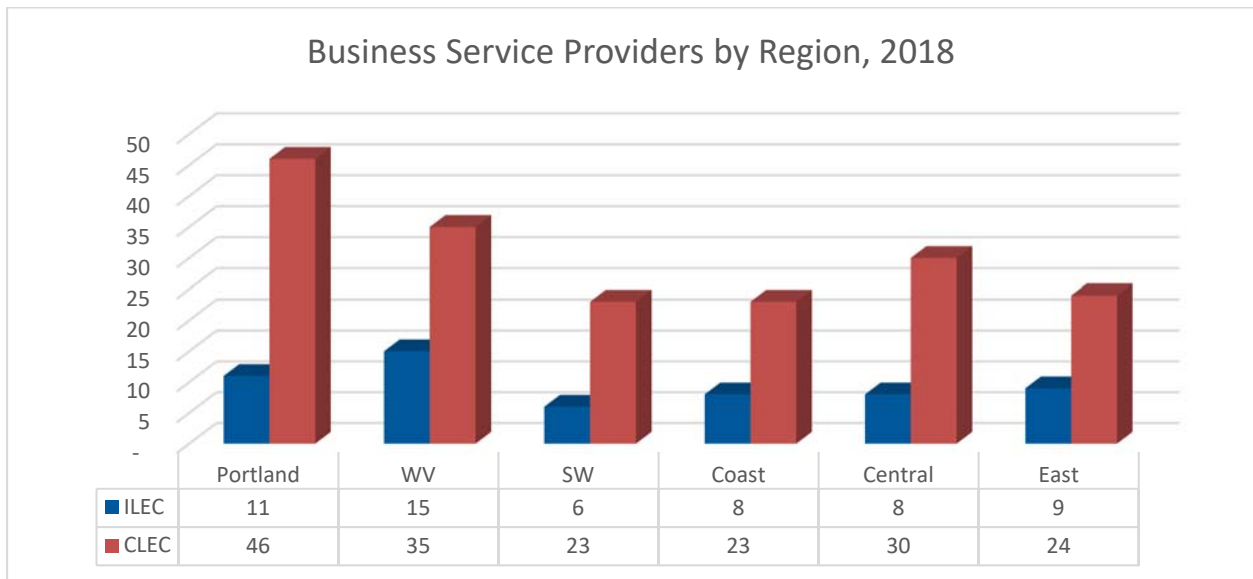
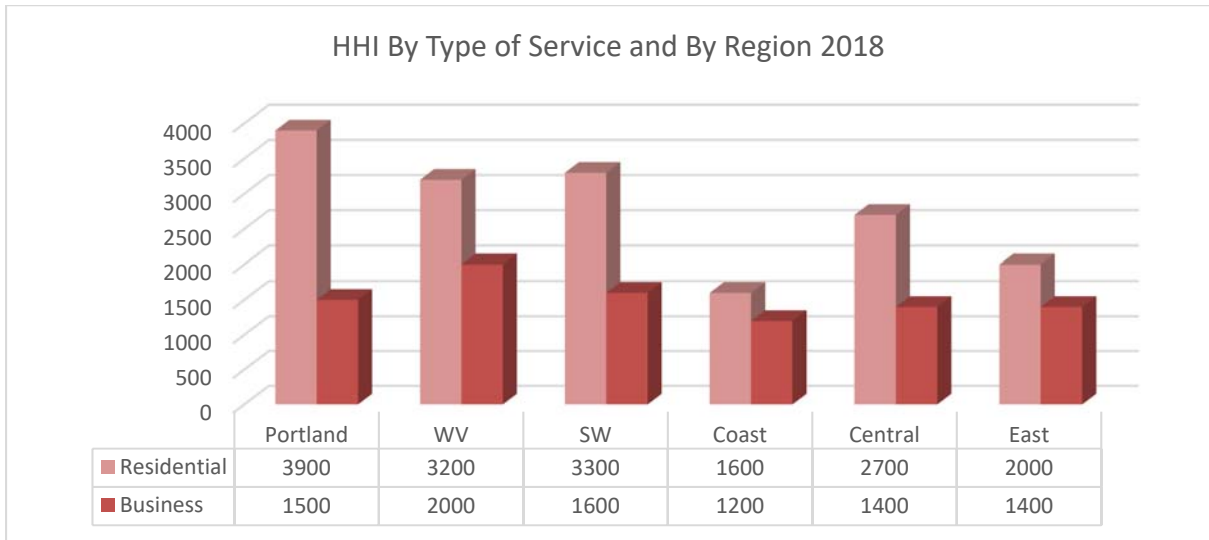


Figure 20 provides an estimate of the Herfindahl- Hirschman Index (HHI) used by the United States Department of Justice when determining if a market is considered competitive or concentrated. An HHI index of 10,000 indicates a monopoly; an index close to zero indicates the market is perfectly competitive. The business markets for the Willamette Valley region would be considered concentrated; and all of the other business markets would be considered moderately concentrated. On the residential side, all regions are considered concentrated except the Coast which is considered moderately concentrated. When a market is determined to be concentrated, it means a few businesses have a very significant market share and are able to control the prices in that market.



**Figure 20. Estimated HHI Index by Region<sup>25</sup>**



<sup>25</sup> The HHI for the regions was calculated based on line market share while the total state index was calculated using revenue market share.

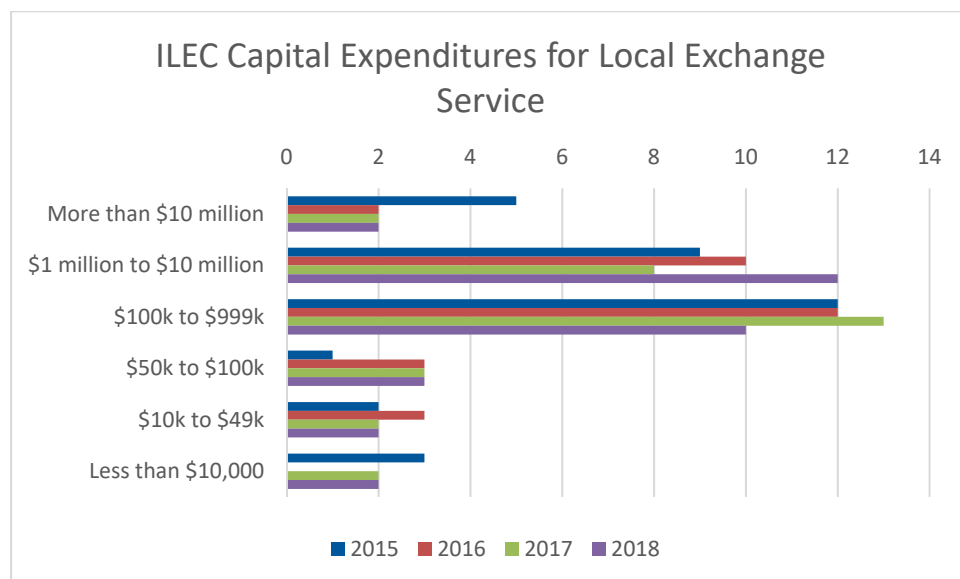
## VII. Business Plans and Competition

### a) Capital Expenditures

Each year staff collects information from the companies on what was spent on adding and upgrading its network. Not all companies responded to this section of the questionnaire because they were not required to do so. This year 81 percent (84 percent for 2017) of the CLECs responded to the question while all of the ILECs responded.

Figure 21 shows how the ILEC companies responded to this question over the last four years.

**Figure 21. ILEC Capital Expenditure**

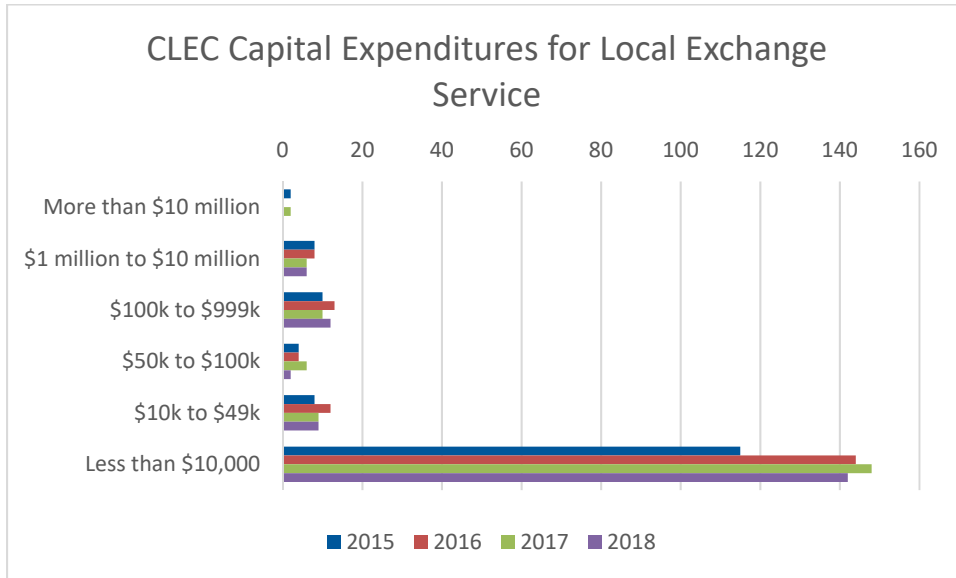


Given the relatively small size of many of the ILEC companies, their actual investments most likely fall on the low side of the ranges. This is particularly true for the companies reporting investments in the one-to-ten million-dollar range.

Figure 22 shows the CLEC capital expenditures for the past four years. Although there are a number of CLEC companies that invest in building and maintaining a network, the majority of

them spend very little on their networks; these are the smaller companies. There are also six companies that spend in excess of \$1 million per year on their networks.

**Figure 22. CLEC Capital Expenditure**



**b) Competition for Residential Market**

The annual survey also had a section about the competition that companies were facing in the residential market. Ninety-four percent of the ILECs responded to the question and 66 percent of the CLECs responded. The companies were allowed to mark multiple answers to the question, “What do you believe are the reasons that you do not have a bigger share of Oregon's residential market?” Table 3 shows possible reasons for a company not having a larger market share; it also shows how many ILECs and CLECs felt that reason applied to them.

**Table 3. Residential Market Competition**

Reasons	# of ILECs	# of CLECs
Cannot compete on price	1	20
Cannot compete on facilities	0	21
ILEC has name familiarity	0	21
Do not have enough capacity	0	15
Wireless phone decreased the wireline demand	20	25
Hard to compete due to location	12	14
Other	9	83

## Appendix

### a) Survey Overview

#### Purpose of the Survey

The purpose of the survey is to determine the status of competition for certain local exchange services provided by ILECs and CLECs in Oregon. The survey collects data on five major types of services: (1) local exchange switched access; (2) intrastate private line; (3) broadband; (4) unbundled network elements (UNEs); and (5) resale service.

#### Survey Participants and Responses

In January 2018, the PUC sent a survey to all 255 carriers holding a certificate issued by the PUC to provide local services in Oregon. Of the 255 carriers, 31 are ILECs and 224 are CLECs. The ILECs are the traditional local telephone service providers, statutorily designated as “carriers of last resort” (COLR), obligating them to serve customers within PUC approved service areas under PUC approved terms and conditions. CLECs do not have COLR obligations under ORS 759.506. The survey requested information pertaining to carrier operations in 2018.

Table 4, below, summarizes the survey response and service operation rates, defined as the percentage of companies offering local exchange service in Oregon.

**Table 4. Survey Response Rates and Service Operation Rates**

2018	Surveys Sent	Responses	Response Rate %
Total ILECs	255	236	92.5%
ILECs	31	31	100.0%
CLECs	224	205	91.5%
	Surveys Sent	Service Provided	Operation Rate %
Total ILECs	255	176	69.0%
ILECs	31	31	100.0%
CLECs	224	145	64.7%